Chapter 3
Non-Federal Covered Activities: Ongoing and Future

3.1 Introduction

Although BAs are not required to describe activities outside of the Federal actions proposed for consultation, this BA describes the non-Federal activities proposed in the LCR MSCP in order to provide a complete description of the collaborative program.

This chapter describes the ongoing and proposed future non-Federal projects, actions, and activities (i.e., covered activities) for which authorization for the incidental taking of covered species is a discretionary action by the USFWS under section 10(a)(1)(B) of the ESA. All of the covered activities would be implemented within the LCR MSCP planning area. The section 10(a)(1)(B) Permit Applicants have prepared a companion LCR MSCP HCP that contains this same description of State covered activities. Four categories of covered activities are described for each of the states:

- ongoing flow-related activities,
- future flow-related activities,
- ongoing non-flow-related activities, and
- future non-flow-related activities.

Ongoing flow-related activities for which incidental take authorization is requested by specific Colorado River water and power contractors are described below.

Future flow-related activities that are covered under the LCR MSCP HCP and LCR MSCP BA include power production and changes in points of diversion of Colorado River water and associated reduction in water releases from the Hoover, Davis, and Parker Dams. Future changes in points of diversion for up to 1.574 mafy are covered under the LCR MSCP HCP for water contractors in Arizona, California, and Nevada. Diversion changes are expected to occur in response to shifts in water demand during the 50-year term of the LCR MSCP.

Certain assumptions about future diversions have been made to guide the analysis of impacts. Neither the source nor the recipient of water that will be diverted as a result of future projects can be determined until these projects are developed. However, the

participants do expect that there will be shifts in demand among water users within each of the Lower Division States. For the purposes of the LCR MSCP, a "worst case scenario" has been assumed with regard to the location and quantities of water that may be transferred as a result of future projects.

The future condition that is assumed is a 1.574 maf shift in water diversion from the southern reaches of the Colorado River, upstream to Lake Mead or to Lake Havasu. Although no additional water would be diverted in a normal water year as a result of these future projects, the points of diversion in this scenario would change based on demand. The description of ongoing and future flow-related covered activities in this LCR MSCP HCP includes the OM&R of the diversion facilities through which the flow-related activities are implemented.

Ongoing non-flow-related covered activities include the OM&R of existing water diversion and conveyance facilities and electrical generation and transmission facilities within the LCR MSCP planning area and programs and activities conducted by the AGFD and the Nevada Department of Wildlife (NDOW).

Future non-flow-related covered activities include the OM&R of existing water diversion and conveyance facilities and electrical generation and transmission facilities within the LCR MSCP planning area and programs and activities conducted by AGFD and NDOW.

3.1.1 Relationship of Non-Federal Covered Activities to Federal Nondiscretionary Actions

Under the LCR MSCP's combined section 7–section 10(a)(1)(B) approach to ESA compliance, the covered activities are categorized as either Federal discretionary actions requiring consultation pursuant to section 7 of the ESA or as non-Federal actions for which a section 10(a)(1)(B) HCP is appropriate. Some of the covered activities have been characterized as Federal nondiscretionary actions but contain an element of non-Federal action. Because Reclamation's role in water delivery is nondiscretionary and not subject to section 7 consultation, it is Reclamation's position that these activities do not create section 9 responsibility for Reclamation. Similarly, the non-Federal LCR MSCP participants do not believe that they are required by the ESA to obtain take authorization for such Federal actions. To eliminate any uncertainty regarding which method of take authorization, section 7 or section 10(a)(1)(B), is more appropriate in this situation, the LCR MSCP participants will request that the USFWS authorize take under both sections 7 and 10(a)(1)(B). The effects of all covered Federal and non-Federal activities, whether discretionary or not, have therefore been described and covered in this LCR MSCP HCP, as well as in the LCR MSCP BA prepared by Reclamation.

Given the combined Federal and non-Federal effort in the conservation actions and covered activities of the LCR MSCP, the USFWS has determined to analyze the effects of the covered Federal activities and issuance of the section 10(a)(1)(B) permit for non-Federal covered activities in one BO.

3.1.2 No Waiver of Defenses

Although the LCR MSCP and the incidental take permits requested by the LCR MSCP participants are intended to cover existing facilities and water and power operations in addition to future programs that have not yet been developed, the LCR MSCP non-Federal participants do not waive any defenses they may have relating to the applicability of the ESA to existing facilities and water and power operations on the LCR. Any reference in the LCR MSCP HCP and related documents that states or implies that the LCR MSCP non-Federal participants are compelled to comply with the ESA to operate existing water and power facilities should be read with the understanding that such LCR MSCP participants are not waiving any legal defenses in regard to the applicability of the ESA to existing facilities and operations.

3.2 Arizona Covered Activities

Arizona covered projects and activities for all reaches described below include the diversion of up to 2.8 maf of Arizona's full annual entitlement, plus surplus, plus Arizona's share of any unused apportionment, plus the volume of return-flow as applicable. The major agencies that divert the water and create return flows are described below for each reach. Arizona covered projects also include non-flow-related activities associated with the OM&R of existing water diversion and conveyance facilities and electrical generation and transmission facilities within the LCR MSCP planning area. Maintenance means those routine activities that maintain the capacity and operational features of existing facilities through which the covered activities are implemented. Replacement applies to existing facilities that are both within the LCR MSCP planning area and within the existing facility footprint. OM&R applies to:

- the facilities and equipment through which water is diverted and conveyed,
- the facilities through which return flows are returned to the river,
- the facilities and equipment through which electric power is generated and transmitted, and
- the appurtenant works that support these facilities in the historical floodplain (Figures 4-3–4-8), including access and service roads, electric power and communication transmission lines and substations, docks, boat ramps, and bankline protection (riprap).

OM&R activities include the daily operation of the water diversion, conveyance, and delivery systems; canal maintenance; placement of riprap for bankline protection and erosion control; vegetation management and weed control; operation and maintenance of electrical power generation and transmission facilities; and routine maintenance as needed to ensure continued operations and replacement of facility or system components when necessary to maintain system capacity and operational capabilities. Arizona's covered projects and activities are located within LCR MSCP Reaches 1–7.

3.2.1 Ongoing Flow-Related Covered Activities

Flow-related activities include ongoing diversions, return flows, and the generation and transmission of hydroelectric power as described below by river reach.

3.2.1.1 Reach 1

- PPRs[1], as identified in the Decree and in the 1979, 1984, and 2000 U.S. Supreme Court Supplemental Decree in *Arizona v. California* (Supplemental Decree);
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G, including diversions via instream pumps and wells; and
- generation and transmission of hydroelectric power at Hoover Dam.

3.2.1.2 Reach 2

- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G; and
- generation and transmission of hydroelectric power at Davis Dam.

3.2.1.3 Reach 3

- Central Arizona Project (CAP) diversion at Havasu pumping plant into the Hayden-Rhodes Aqueduct;
- Lake Havasu City diversion by wells;
- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G; and
- generation and transmission of hydroelectric power at Parker Dam.

3.2.1.4 Reach 4

- Cibola Valley Irrigation and Drainage District diversion via river pumps, unmeasured return flows;

[1] With respect to the Colorado River, a water right exercised by the actual diversion of a specific quantity of water, prior to June 25, 1929, the effective date of the Boulder Canyon Project.

- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G; and
- generation and transmission of hydroelectric power at Headgate Rock Dam.

3.2.1.5 Reach 5

- City of Yuma, as delivered by Yuma County Water Users' Association and Yuma Mesa Irrigation and Drainage District;
- Diversions from Imperial Dam via the Gila Gravity Main Canal and return flows for:
  - Mittry Lake;
  - Wellton-Mohawk Irrigation and Drainage District;
  - Yuma-Mesa Division, including:
    - North Gila Valley Irrigation and Drainage District,
    - Yuma Irrigation District, and
    - Yuma-Mesa Irrigation and Drainage District,
  - Yuma Auxiliary Project, Unit B;
- Yuma County Water Users' Association, as measured at the Colorado River siphon after diversion from the All American Canal (AAC);
- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G; and
- generation and transmission of hydroelectric power at Siphon Drop.

3.2.1.6 Reach 6

- return flows of Colorado River water into this reach that was diverted in Reach 5, as identified in Section 3.2.1.5 and Appendix G;
- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G; and
- measured return flows from operation of drainage wells in the Yuma area.

3.2.1.7 Reach 7

- return flows of Colorado River water into this reach that was diverted in this Reach and also diverted within Reaches 5 and 6, as identified in Section 3.2.1.5, Section 3.2.1.6, and Appendix G;
- PPRs, as identified in the Decree and in the Supplemental Decree; and
- other Colorado River contractors in Arizona and legal Colorado River water diverters, as identified in Appendix G.

3.2.1.8 Arizona Hydroelectric Power Contract Holders

Ongoing programs and activities by Arizona hydroelectric power contract holders proposed for coverage under the LCR MSCP HCP include the contracting for, ordering of, and scheduling of Federal hydroelectric power by purchasers in Arizona to maximize the economic value of such power generation within the constraints of the water release schedule(s).

3.2.2 Future Flow-Related Covered Activities

3.2.2.1 Arizona Water Contract Holders

Future flow-related activities by Arizona covered under the LCR MSCP HCP would include future Colorado River water contracts for the approximately 20,000 af of unallocated Arizona Colorado River water.

Future activities by Arizona covered under the LCR MSCP HCP would include diversions, discharges, and return flows through existing facilities on the LCR. Future volumes of diversions, discharges, and volume of return flows may be changed by administrative actions, which may include changes to points of diversion, new points of diversion, interstate water banking, water marketing, water transfers, inadvertent overruns, or any other actions as made possible from any future agreements and/or measures taken by the ADWR or contract holder(s). Future volumes of diversions, discharges, and return flows, may include permanent transfers of entitlement and change in points of diversion of up to 200,000 af annually. Future projects would also include the full use of Colorado River entitlements (change in point of diversion) by existing contractors and decreed water right holders including, but not limited to:

- City of Kingman and
- City of Quartzsite.

Future activities by Arizona covered under the LCR MSCP HCP would also include temporary and intermittent water exchanges, forbearances, and associated changes in

points of diversion for Arizona water-banking activities or short-term (i.e., less than 5 years) leasing. Temporary and intermittent water exchanges include, but are not limited to, water exchanges between the AWBA and Mohave County and La Paz County agencies, Metropolitan, and the Southern Nevada Water Authority (SNWA). Water exchanges between the AWBA and both Mohave County and La Paz County are expected to be temporary exchanges and intermittent in nature. These exchanges are anticipated to be approximately 15,000 af yearly and approximately 1,000 af yearly, respectively. Water exchanges between the AWBA and agencies within California and Nevada are expected to be temporary and would not cumulatively exceed a total of 100,000 afy for both California and Nevada.

3.2.2.2 Arizona Hydroelectric Power Contract Holders

The execution, administration, and operation of extended, renewed, new, or additional contracts for hydroelectric power from hydroelectric facilities at Hoover Dam, Davis Dam, Parker Dam, Headgate Rock Dam, Siphon Drop, and Pilot Knob Power Plant by power users in Arizona are proposed for coverage under the LCR MSCP HCP.

3.2.3 Ongoing Non-Flow-Related Covered Activities

Arizona seeks coverage for non-flow-related activities associated with the OM&R of existing water diversion and conveyance facilities and electrical generation and transmission facilities within the LCR MSCP planning area. Maintenance means those routine activities that maintain the capacity and operational features of existing facilities through which the covered activities are implemented. Replacement applies to existing facilities, both within the LCR MSCP planning area and within the existing facility footprint. OM&R applies to:

- the facilities and equipment through which water is diverted and conveyed, including 234 miles of canals in the Yuma Valley—canal maintenance includes regular compaction with a sheep's foot roller,
- the facilities through which return flows are returned to the river, including 72 miles of drains (e.g., maintaining drains by chaining to remove vegetation in drains to maintain flow capacity),
- the facilities and equipment through which electric power is generated and transmitted, and
- the appurtenant works that support these facilities in the historical floodplain (Figures 4-3–4-8), including access and service roads, electric power and communication transmission lines and substations, docks, boat ramps, and bankline protection (riprap).

The locations and entities involved in non-flow-related maintenance and replacement activities are listed in Section 3.2.1, "Ongoing Flow-Related Covered Activities." Additional ongoing non-flow-related activities for AGFD are described below.

3.2.3.1 Arizona Game and Fish Department Programs and Activities

Ongoing programs and activities by the AGFD proposed for coverage under the HCP include vegetation and habitat management programs, maintenance of aids to navigation and boating access, and law enforcement patrol activities. Ongoing programs and activities related to surveying, capturing, and handling of Federally listed species will be covered under section 10(a)(1)(A) permits and other authorities, as defined in the section 6 Cooperative Agreement between the AGFD and the USFWS. These programs and activities are, therefore, not covered activities under the LCR MSCP HCP.

Vegetation and Habitat Management Programs

Vegetation and habitat management programs include aquatic, wetland, and riparian habitat maintenance and restoration activities designed, located, or implemented in a manner to avoid impacts to sensitive species and habitats. Sites for habitat maintenance and restoration will be selected and designed to increase or improve habitat for native wetland and riparian wildlife species and will be selected to avoid impact to or removal of existing functional cottonwood-willow, marsh, honey mesquite, and backwater land cover types that provide habitat for covered and evaluation species. Habitat maintenance and restoration will be implemented to avoid the breeding season of all covered bird species. Aquatic habitat maintenance and restoration includes installation of fish attractor structures to increase take of nonnative fish by anglers and to provide cover for young-of-year fish of up to 10 acres in any 5 year period over the term of the LCR MSCP. Wetland and riparian habitat maintenance and restoration activities would be limited to 10 acres in any 5-year period over the term of the LCR MSCP.

Fish Surveys

The fish surveys described herein are general population surveys of nonnative species found along the LCR. Surveys for Federally listed species are conducted under the auspices of separate permits issued by the USFWS. The intention is that surveys for species not described in the Federal permits that may result in take of a listed species are a covered activity. Fish surveys include using electrofishing, netting, angling, and noninvasive but potentially disturbing visual surveys (as with using scuba gear). The goal during electrofishing surveys is to use the minimum practicable current settings to minimize impacts to fish. Specific settings are required for some species such as flathead catfish since that species is not effectively caught during surveys for centrarchids and other warm water species. Likewise, other species are not typically caught during flathead surveys. Trammel or gill net surveys are also conducted. A "best management practices" type of approach has been used for netting surveys to reduce impacts to fish,

including variations in gear selection and the frequency in which nets are pulled. Vertical gill net sets in deep water have been the only effective means of surveying striped bass in large lakes such as Lake Havasu. During surveys, any fish that accidentally die are available for detailed examination. Such examinations may address the aging of otoliths to improve our understanding of length/age relationships and determination of stomach contents, improving our understanding of food habits. The total effort is approximately 30 nights for netting and 30 nights for electrofishing annually.

Fish Stocking

AGFD evaluates the stocking of trout on a case-by-case basis, and stocks trout to simultaneously address recreational opportunity and aquatic insect nuisance problems identified by local governments. The mainstem of the LCR is stocked in the Bullhead City (Reach 3) and Parker Strip (Reach 4) areas up to 3 times in a 10 year period. Stocking is conducted using rainbow trout with limited life expectancies and very limited potential for persistence.

Maintenance of Aids to Navigation and Boating Access

AGFD places and maintains aids to navigation along the LCR. This typically involves hand lowering of concrete-filled automobile wheels as anchors, attached by rope and chain to floating buoys. These buoys are placed to advise boaters of regulated areas, mark hazards to navigation, or provide other information. At present, AGFD maintains 132 buoys, including regulatory, informational, and hazard markers, along the LCR. It is anticipated that additional effort will be required associated with additional conservation actions. AGFD also maintains boating access improvements. Currently, in Reach 6, there is a boat ramp in the Yuma Division and a boat dock at Mittry Lake in the Laguna Division.

Law Enforcement Patrol Activities

Pursuant to state law, AGFD is responsible for administering the law enforcement and boating safety program on the state level. These programs include law enforcement patrols using watercraft to pursue and stop other watercraft. When pursuing a watercraft exceeding wakeless speed in a no-wake zone, the patrol boat also creates a wake. Some incidental impact to resources that the no-wake zone was intended to protect may occur as a result. Estimated total effort for watercraft-based law enforcement patrol activities is 1,500–2,000 person-days for all entities enforcing Arizona law in both the mainstem of the Colorado River and mainstem reservoirs. Of that total, which includes all activity while on the water, it is estimated that less than five percent is located in more sensitive off-channel areas. Time spent in pursuit is usually limited to a few minutes; other time spent patrolling in sensitive areas is at low speed. Additional effort may be required in association with new conservation actions.

3.2.4 Future Non-Flow-Related Covered Activities

In addition to the OM&R of facilities described in Section 3.2.1, future non-flow-related activities include the AGFD programs and activities described below.

3.2.4.1 Arizona Game and Fish Department Programs and Activities

Future projects by AGFD covered by the HCP include ongoing projects identified in Section 3.2.3.1 and AGFD projects related to implementation of the LCR MSCP.

3.3 California Covered Activities

California covered projects and activities for all applicable reaches include the diversion of up to 4.4 maf of California's full annual entitlement (consistent with the Quantification Settlement Agreement [QSA]), plus California's share of any unused apportionment and designated surpluses, plus volume of return flows as applicable. The agencies that divert the water and create applicable return flows are described below for each reach. California's covered projects and activities also include all flow-related and non-flow-related OM&R activities associated with existing water diversions, conveyance facilities, and electrical generation and transmission facilities within the LCR MSCP planning area. Maintenance means those routine activities that maintain the capacity and operational features of existing facilities through which the covered activities are implemented. Replacement applies to existing facilities that are both within the LCR MSCP planning area and within the existing facility footprint. OM&R applies to:

- the facilities and equipment through which water is diverted and conveyed,
- the facilities through which return flows are returned to the river,
- the facilities and equipment through which electric power is generated and transmitted, and
- the appurtenant works that support these facilities in the historical floodplain (Figures 4-4–4-7), including access and service roads, electric power and communication transmission lines and substations, docks, boat ramps, and bankline protection (riprap).

OM&R activities include the daily operation of the water diversion, conveyance, and delivery systems; canal maintenance; placement of riprap for bankline protection and erosion control; vegetation management and weed control; operation and maintenance of electrical power generation and transmission facilities; and routine maintenance as needed to ensure continued operations and replacement of facility or system components when necessary to maintain system capacity and operational capabilities. California's covered projects and activities are located within LCR MSCP Reaches 1–6. There are no California covered projects or activities within Reach 7 (i.e., Limitrophe Division).

3.3.1 Ongoing Flow-Related Covered Activities

Flow-related activities include ongoing diversion, return flows, and the generation and transmission of hydroelectric power as described below by river reach.

3.3.1.1 Reach 1

California covered activities in Reach 1 would include retaining a portion of the Metropolitan's allocation in Lake Mead, periodically, at the request of the United States. This occurs in order to facilitate transportation of a portion of the 1944 Water Treaty obligation (1.5 maf) through Metropolitan's Colorado River Aqueduct and distribution system to the San Diego County Water Authority (SDCWA), and ultimately, to Mexican municipal and industrial (M&I) uses in Tijuana, B.C., Mexico. The delivery of 1944 Water Treaty waters to Tijuana is described in greater detail in Chapter 2 of the LCR MSCP BA.

Additionally, California covered projects and activities in Reach 1 include the generation and transmission of electrical energy generated at Reclamation's Hoover Dam facility.

3.3.1.2 Reach 2

California covered projects and activities in Reach 2 include the generation and transmission of electrical energy generated at Reclamation's Davis Dam facility.

3.3.1.3 Reach 3

- City of Needles diversion from wells and return flows;
- Lower Colorado Water Supply Project—diversion in this reach, although all or some of the water may come from another reach (e.g., Reach 6) and includes non-Federal approval of subcontracts and development of the projects;
- Metropolitan—all diversions through operation of the Whitsett Pumping Plant and Colorado River Aqueduct facilities in Lake Havasu and return flows;
- PPRs—identified in the Decree and in the Supplemental Decree; and
- other Colorado River contractors in California (as identified in Appendix G) and legal mainstream Colorado River water diverters and their return flows—includes diversions via instream pumps and wells.

California's covered projects and activities in Reach 3 also include the generation and transmission of electrical energy generated at Reclamation's Parker Dam facility.

3.3.1.4 Reach 4

- Palo Verde Irrigation District (PVID) diversions at Palo Verde Diversion Dam, conveyance and water delivery system infrastructure (consisting of 400 miles of canals, drains, and spill channels) and appurtenant works and features within the PVID, with return flows through the Palo Verde Outfall Drain sluiceways and spill channels, as well as other drain structures and features;
- PPRs, as identified in the Decree and in the Supplemental Decree;
- Lower Colorado Water Supply Project—diversion in this reach, although all or some of the water may come from another reach (e.g., Reach 6) and includes non-Federal approval of subcontracts and development of the projects; and
- other Colorado River contractors in California, as identified in Appendix G, and legal mainstream Colorado River water diverters and their return flows, including diversions via instream pumps and wells.

3.3.1.5 Reach 5

- Imperial Diversion Dam, desilting basins, appurtenant works and features, and diversions into the AAC for delivery, and return flows (where appropriate) associated with:
  - Imperial Irrigation District (IID),
  - Coachella Valley Water District (CVWD),
- Bard Water District (BWD) component of the Yuma Project (consisting of 85 miles of drains, canals, and laterals):
  - Reservation Division,
  - Yuma County Water Users' Association via the Siphon Drop facility through the Yuma Main Canal (which crosses under the Colorado River from the California side to the Arizona side), and
  - diversion and transportation of a portion of the 1944 Water Treaty obligation at Imperial Dam and through the AAC for delivery back to the mainstream via the Siphon Drop Power Plant and through Yuma Main Canal and the Pilot Knob Power Plant above the NIB;
- PPRs, as identified in the Decree and in the Supplemental Decree;
- Lower Colorado Water Supply Project—diversion in this reach, although all or some of the water may come from another reach (e.g., Reach 6) and includes non-Federal approval of subcontracts and development of the projects; and
- other Colorado River contractors in California, as identified in Appendix G, and legal mainstream Colorado River water diverters and their return flows, including diversions via instream pumps and wells.

California's covered projects and activities in Reach 5 also includes the generation and transmission of electrical energy generated at Siphon Drop Power Plant.

3.3.1.6 Reach 6

- PPRs, as identified in the Decree and in the Supplemental Decree;
- IID generation and transmission of electrical energy at the Pilot Knob Power Plant;
- transportation of a portion of the 1944 Water Treaty obligation through the AAC for delivery back to the mainstream via the Pilot Knob Power Plant and through Yuma Main Canal and the Siphon Drop Power Plant above the NIB; and
- other Colorado River Contractors in California, as identified in Appendix G, and legal mainstream Colorado River water diverters and their return flows, including diversions via instream pumps and wells.

3.3.1.7 California Hydroelectric Power Contract Holders

Ongoing programs and activities by California hydroelectric power contract holders proposed for coverage under the LCR MSCP HCP include the contracting for, ordering of, and scheduling of Federal hydroelectric power by purchasers in California to maximize the economic value of such power generation within the constraints of the water release schedule(s).

3.3.2 Future Flow-Related Covered Activities

Future projects and activities by California covered under the HCP would include diversions, discharges, and return flows through existing facilities on the LCR. Up to 800,000 af annually of diversions, discharges, and return flows may be changed by administrative actions, which may include changes to points of diversion (i.e., associated with the LCR Water Supply Project), new points of diversion, interstate water banking, forbearance, inadvertent overruns, water marketing, and water transfers, or any other actions as made possible from any future agreements and/or measures taken by the Colorado River Board of California or contract holder(s). Included within these projects and activities are: (1) the change in point of diversion of up to 200,000 af of water per year from Imperial Dam to Lake Havasu pursuant to the Agreement for Transfer of Conserved Water by and between the Imperial Irrigation District and the San Diego County Water Authority, dated April 29, 1998, as amended (20,000 af are scheduled for transfer in 2004 based on a prescribed ramp-up schedule); and (2) the change in point of diversion of up to 77,700 af of water per year from Imperial Dam to Lake Havasu transferred to the San Diego County Water Authority, as described in the Allocation Agreement among the United States of America, the Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pauma, Pala, Rincon, and San Pasqual

Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District, dated October 10, 2003. Those transfers are part of the change in point of diversion of up to 400,000 afy addressed in the section 7 consultation resulting in the 2001 ISC/SIA BO (U.S. Fish and Wildlife Service 2001). The transfers described above were also the subject of project level environmental review and compliance in accordance with NEPA and CEQA. As noted in Sections 1.3.4 and 5.2, the California contract holders are including the 400,000 af in annual changes in point of diversion as a covered activity for purposes of the section 10(a)(1)(B) permit issued for the LCR MSCP. Other future changes in point of diversion within the 800,000 afy are projects implemented in accordance with the QSA or contemplated in the Draft California Colorado River Water Use Plan.

3.3.2.1 California Hydroelectric Power Contract Holders

The execution, administration, and operation of extended, renewed, new, or additional contracts for hydroelectric power from hydroelectric facilities at Hoover Dam, Davis Dam, Parker Dam, Headgate Rock Dam, Siphon Drop Power Plant, and Pilot Knob Power Plant by power users in California are proposed for coverage under the LCR MSCP HCP.

3.3.3 Ongoing Non-Flow-Related Covered Activities

California's covered projects and activities include all ongoing non-flow-related OM&R activities associated with existing water diversions, conveyance facilities, and electrical generation and transmission facilities within the LCR MSCP planning area. Maintenance means those routine activities that maintain the capacity and operational features of existing facilities through which the covered activities are implemented. Replacement applies to existing facilities, both within the LCR MSCP planning area and within the existing facility footprint. OM&R applies to:

- the facilities and equipment through which water is diverted and conveyed, including 313 miles of canals by PVID and BWD (e.g., maintaining canals by chaining or dredging to remove vegetation in canals to maintain flow capacity),
- the facilities through which return flows are returned to the river, including 172 miles of drains by PVID and BWD (e.g., maintaining drains by chaining or dredging to remove vegetation in drains to maintain flow capacity),
- the facilities and equipment through which electric power is generated and transmitted, and
- the appurtenant works that support these facilities in the historical floodplain (Figures 4-4–4-7), including access and service roads, electric power and communication transmission lines and substations, docks, boat ramps, and bankline protection (riprap).

The locations and entities involved in ongoing non-flow-related maintenance and replacement activities are listed in Section 3.3.1, "Ongoing Flow-Related Covered Activities."

3.3.4 Future Non-Flow-Related Covered Activities

The locations and entities involved in future non-flow-related maintenance and replacement activities are listed in Section 3.3.1, "Ongoing Flow-Related Covered Activities."

3.4 Nevada Covered Activities

Nevada covered projects and activities for all reaches described below include the diversion of up to 0.3 maf of Nevada's full annual entitlement, plus surplus flows, plus Nevada's share of any unused apportionment, plus volume of return flows as applicable. The agencies that divert the water and create applicable return flows are described below. Nevada entities seek coverage for OM&R of existing water diversion and conveyance facilities and electrical generation and transmission facilities within the LCR MSCP planning area. Maintenance means those routine activities that maintain the capacity and operational features of existing facilities through which the covered activities are implemented. Replacement applies to existing facilities that are both within the LCR MSCP planning area and within the existing facility footprint. OM&R applies to:

- the facilities and equipment through which water is diverted and conveyed,
- the facilities through which return flows are returned to the river,
- the facilities and equipment through which electric power is generated and transmitted, and
- the appurtenant works that support these facilities in the historical floodplain (Figures 4-2–4-4), including access and service roads, electric power and communication transmission lines and substations, docks, boat ramps, and bankline protection (riprap).

OM&R activities include the daily operation of the water diversion, conveyance, and delivery systems; canal maintenance; placement of riprap for bankline protection and erosion control; vegetation management and weed control; operation and maintenance of electrical power generation and transmission facilities; and routine maintenance as needed to ensure continued operations and replacement of facility or system components when necessary to maintain system capacity and operational capabilities. Nevada's covered projects and activities are located within LCR MSCP Reaches 1–3. There are no ongoing Nevada actions in Reaches 4–7.

3.4.1 Ongoing Flow-Related Covered Activities

Flow-related activities include ongoing diversions, return flows, and the generation and transmission of hydroelectric power by the following.

3.4.1.1 Reach 1

Nevada covered projects in Reach 1 include:

- Boulder Canyon Project diversions at Hoover Dam;
- City of Boulder City diversions at Hoover Dam and Temple Park;
- City of Henderson and Basic Water Company (BWC) diversions at Saddle Island, Lake Mead (one intake);
- Las Vegas Valley return flows (dry weather flows, treated wastewater returns, and unmeasured returns);
- Nevada Department of Fish and Game (now Nevada Department of Wildlife) diversion at Saddle Island, Lake Mead;
- Pacific Coast Building Products diversion at Gypsum Wash, Lake Mead (diversion through well[s]);
- Southern Nevada Water Authority diversions at Saddle Island, Lake Mead, known as Robert B. Griffith Water Project and River Mountains Facility (two intakes);
- PPRs, as identified in the Decree and in the Supplemental Decree;
- other Colorado River contractors in Nevada and legal Colorado River water diverters, as identified in Appendix G;
- Boulder Canyon Project Diversion at Hoover Dam—Federal project, used for dam facilities and Reclamation's visitors' center, accounted for within Nevada's allocation; and
- Lake Mead NRA diversions—PPR and water user contract for the NPS, facilities owned and operated by the City of Boulder City.

Nevada's covered activities in Reach 1 include the generation and transmission of hydroelectric power at Hoover Dam.

3.4.1.2 Reach 2

Nevada covered projects in Reach 2 include:

- Lake Mead NRA diversions at Cottonwood Cove, Lake Mohave;
- other Colorado River contractors in Nevada and legal Colorado River water diverters, as identified in Appendix G;
- PPRs, as identified in the Decree and in the Supplemental Decree; and

Nevada's covered activities in Reach 2 include the generation and transmission of hydroelectric power at Davis Dam.

3.4.1.3 Reach 3

Nevada covered projects in Reach 3 include:

- Big Bend Water District (Laughlin) diversion and return flows;
- Boy Scouts of America (diversion through well[s]);
- existing wells determined to be pumping Colorado River water;
- Laughlin area return flows (treated wastewater returns and unmeasured returns);
- SNWA diversions at the Mohave Generation Station;
- Sportsman Park (diversion through well[s]);
- other Colorado River contractors in Nevada and legal Colorado River water diverters, as identified in Appendix G; and
- PPRs, as identified in the Decree and in the Supplemental Decree.

Nevada's covered activities in Reach 3 include the generation and transmission of hydroelectric power at Parker Dam.

3.4.1.4 Nevada Hydroelectric Power Contract Holders

Ongoing programs and activities by Nevada hydroelectric power contract holders proposed for coverage under the LCR MSCP HCP include the contracting for, ordering of, and scheduling of Federal hydroelectric power by purchasers in Nevada to maximize the economic value of such power generation within the constraints of the water release schedule(s).

3.4.2 Future Flow-Related Covered Activities

Future projects by Nevada covered under the HCP would include diversions, discharges, and return flows through existing facilities on the LCR. Future volumes of diversions, discharges, and return flows may be changed by administrative actions, which may include changes to points of diversion, new points of diversion, interstate water banking, water marketing, and water transfers, or any other actions as made possible from any future agreements and/or measures taken by the Colorado River Commission of Nevada or contract holder(s). The potential changes in flows from future projects by Nevada are not expected to exceed 233,000 af of consumptive use. Consumptive use includes return flows from activities on the LCR.

Future projects by Nevada also include coverage for potential changes to existing flows into Lake Mead from the Muddy and Virgin Rivers (i.e., inflows discharging within the full pool elevation of Lake Mead), which may affect lake levels. Flow from the Muddy and Virgin Rivers pass into Lake Mead, and could be increased by augmentation from potential future projects implemented outside of the LCR MSCP planning area along the Muddy and Virgin Rivers (e.g., actions such as purchasing irrigation water shares, or decreased by construction of upstream water diversion and conveyance facilities). Those activities that would be implemented outside the LCR MSCP planning area that could affect lake levels, however, are not covered under the LCR MSCP, including effects of these actions on the Muddy and Virgin Rivers. Such potential future projects would need to provide environmental documentation and obtain all applicable permits independent of the LCR MSCP. Flow into Lake Mead from the Virgin River could increase by approximately 30,000 af annually or decrease by approximately 60,000 af annually. Flow into Lake Mead from the Muddy River could increase by approximately 30,000 af annually or decrease by approximately 8,000 af annually. The potential changes in flow into Lake Mead from the Muddy and Virgin Rivers are within the 233,000 af consumptive use.

Future projects and activities by Nevada covered under the HCP would also include temporary water exchanges, forbearances, and associated changes in points of diversion for water banking activities or short-term leasing. Temporary water exchanges include, although are not limited to, water exchanges between the AWBA and the SNWA, and/or other legal Colorado River water user within Nevada. Water exchanges between the AWBA and agencies within Nevada are expected to be temporary, and would not cumulatively exceed 100,000 afy for California and Nevada combined.

3.4.2.1 Nevada Hydroelectric Power Contract Holders

The execution, administration, and operation of extended, renewed, new, or additional contracts for hydroelectric power from hydroelectric facilities at Hoover, Davis, Parker, and Headgate Rock Dams by power users in Nevada are proposed for coverage under the HCP.

3.4.3 Ongoing Non-Flow-Related Covered Activities

In addition to the OM&R of facilities described in Section 3.4.1, ongoing non-flow-related activities include the NDOW programs and activities described below.

3.4.3.1 Nevada Department of Wildlife Programs and Activities

NDOW has statutory responsibilities and authorities and the ability to perform activities/programs within the discretion of NDOW. The majority of activities which are occurring or which are anticipated to occur in the future are not reasonably anticipated to result in take of species listed under ESA or are performed under authority of Title 50 C.F.R. §17.21(c)(5) and existing cooperative agreements with the USFWS. For those state level activities performed by NDOW that are funded under the Cooperative Endangered Species Conservation Fund, Federal Aid in Sport Fish Restoration Act, and Wildlife Restoration Act, consultation to address potential take is performed as part of the review of existing statewide Federal Aid grant processes through Region 1 of the USFWS. It is the intent of NDOW to continue this existing review and consultation process outside of the auspices of the LCR MSCP program and permitting process. Those activities/programs may include:

- fish stocking, procurement, and reintroduction efforts, including those for endangered species and rainbow trout;
- fish surveys using electrofishing, netting, and angling;
- Sport Fish Restoration Act—funded sportfish enhancement projects; and
- wildlife surveys.

Additional activities/programs may be performed by NDOW that may be funded entirely from non-Federal revenue sources, or partially/entirely using Sport Fish/Wildlife Restoration Act funding including state matching funds and resources. Where these activities/programs include a Federal funding component, it is the intent of NDOW to use existing ESA consultation processes as described above for those actions. Ongoing programs and activities related to surveying, capturing, and handling of Federally listed species will be covered under section 10(a)(1)(A) permits and other authorities, as defined in the section 6 Cooperative Agreement between the NDOW and the USFWS. These programs and activities are, therefore, not covered activities under the LCR MSCP HCP.

Ongoing and potential activities for which coverage is requested under the HCP, depending on inclusion of a Federal funding component, include the following.

1. Aquatic, wetland, and riparian habitat maintenance and restoration activities, including installation of artificial fishery habitat enhancement. Most of these activities have occurred or are occurring at Lake Mead and Lake Mohave and are funded under the Sport Fish/Wildlife Restoration Act. Additional activities are not planned at this time but may occur, depending on reservoir surface elevations and as benefits to fisheries are realized and justified through existing activities. Future projects are anticipated to focus on small-scale, localized habitat enhancement projects targeted at existing high angler use areas on mainstem reservoirs. It is currently estimated that up to 20 acres of aquatic habitat improvements and 10 acres of terrestrial habitat improvements could occur within any 5-year period over the term of the LCR MSCP. Sites for habitat maintenance and restoration will be

selected and designed to increase or improve habitat for native wetland and riparian wildlife species and will be selected to avoid impact to or removal of existing functional cottonwood-willow, marsh, honey mesquite, and backwater land cover types that provide habitat for covered and evaluation species. Habitat maintenance and restoration will be implemented to avoid the breeding season of all covered bird species.

2. Revegetation activities for aquatic, wetland, and riparian enhancement. No projects are currently ongoing or anticipated but would occur principally on state lands and would use only native vegetation.

3. Maintenance of aids to navigation and boating access. NDOW places and maintains aids to navigation along the LCR and in Lake Mead and Lake Mohave. This activity typically involves hand-lowering of anchors, attached by rope and chain to floating buoys. These buoys are placed to advise boaters of regulated areas, mark hazards to navigation, or provide other information. It is anticipated that additional effort will be required associated with additional conservation actions and in response to increasing levels of recreational boating activity. The NDOW also maintains boating access improvements. Currently, there is a boat ramp at Fisherman's Park in Laughlin, and NDOW provides cooperative assistance to maintain and enhance boating access facilities at Big Bend State Park near Laughlin, although boating access improvements may take place anywhere along the River including mainstem reservoirs. Maintenance and improvements to existing facilities at Fisherman's Park and Big Bend State Park is funded in part under the Sport Fish/Wildlife Restoration Act and also through use of state motorboat fuel tax revenues. Cooperative assistance to the National Park Service for maintenance and enhancement of boating access facilities within the Lake Mead NRA is primarily funded under the Sport Fish/Wildlife Restoration Act.

4. Law enforcement patrol activities including boating safety programs. Pursuant to state law, NDOW is responsible for administering the law enforcement and boating safety program on the state level. These programs include law enforcement patrols using watercraft to pursue and stop other watercraft. When pursuing a watercraft exceeding wakeless speed in a no-wake zone, the patrol boat also creates a wake. Some incidental impact to resources that the no-wake zone was intended to protect may occur as a result. The annual level of law enforcement patrol activities is anticipated to be similar to the estimated total effort for watercraft-based law enforcement patrol activities in 2002. NDOW estimates that a total of 22,000 person-hours will be expended to conduct these activities in 2002. Of that total, which includes all activity while on the water, it is estimated that less than one percent is located in more sensitive off-channel areas. Time spent in pursuit is usually limited to a few minutes; other time spent patrolling in sensitive areas is at low speed. Additional effort may be required in association with new conservation actions.

3.4.4 Future Non-Flow-Related Covered Activities

In addition to the OM&R of facilities described in Section 3.4.1, future non-flow-related activities include the NDOW programs and activities described below.

3.4.4.1 Nevada Department of Wildlife Programs and Activities

Future projects by NDOW covered under the HCP would include those ongoing projects identified in Section 3.4.3.1, which may be funded entirely from non-Federal revenue sources, including NDOW projects identified as ongoing projects that NDOW does not currently participate in, but may participate in sometime in the future, and NDOW projects related to the LCR MSCP.